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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,075	08/23/2001	Mohammad Eslamy	9818-055-999	9873

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PENNIE AND EDMONDS  
1155 AVENUE OF THE AMERICAS  
NEW YORK, NY 100362711

EXAMINER

NGUYEN, JOSEPH H

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 11/29/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/938,075

Applicant(s)

ESLAMY, MOHAMMAD

Examiner

Joseph Nguyen

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-15 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-15 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schelhorn.

Regarding claim 9, Schelhorn discloses on figure 2 a semiconductor chip carrier comprising a primary substrate 18; a metal heat sink plate 24 whose thermal coefficient of expansion is substantially different from that of said primary substrate, having a first side and an opposing side where said primary substrate is attached to said first side; and a supplemental substrate 14 being attached to said second side of said metal heat sink plate, wherein said supplemental substrate is constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate.

It should be noted that the limitation “so that the presence of the supplemental substrate prevents the chip carrier from warping” is merely functional language and does not structurally distinguish from the structure of Schelhorn.

Regarding claim 10, Schelhorn discloses on figure 2 said supplemental substrate 14 is constructed from a same material as said primary substrate 18.

### ***Claim R ejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al in view of Shishido et al.

Regarding claim 9, Johnson et al discloses on figure 6 a primary substrate 12; a metal heat sink plate 28 whose thermal coefficient of expansion is substantially different from that of said primary substrate, having a first side and an opposing second side where said primary substrate is attached to said first side; and an supplemental substrate 29 being attached to said second side of said metal heat sink plate 28. Johnson et al does not disclose said supplemental substrate is constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate. However, Shishido et al discloses on figure 2 said supplemental substrate 30a constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate 12. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson et al by having said supplemental substrate constructed from a material having a substantially similar coefficient of thermal expansion as that of said primary substrate for the purpose of obtaining substantially no warpage in the resulting package as taught by Shishido (col. 4, lines 10-11).

Regarding claims 10-15, Johnson et al and Shishido together disclose all the structure set forth in claims 10-15.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al and Shishido et al as applied to claim 1 above, and further in view of Hamzehdoost et al.

Regarding claim 20, Johnson et al and Shishido et al disclose substantially all the structure set forth in the claimed invention except the primary substrate comprising a die attach cavity wherein the semiconductor chip being attached to the first side of the metal heat sink within the die attach cavity. However, Hamzehdoost et al discloses on figure 5 the primary substrate 226 comprising a die attach cavity 206 wherein the semiconductor chip 202 being attached to the first side of the metal heat sink within the die attach cavity. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Johnson et al and Shishido et al by having except the primary substrate comprising a die attach cavity wherein the semiconductor chip being attached to the first side of the metal heat sink within the die attach cavity for the purpose of providing a reliable way of obtaining direct access to the back of an integrated circuit chip as taught by Hamzehdoost et al (col. 3, lines 15-16).

***R s p o n s   t o   A r g u m e n t s***

Applicant's arguments with respect to claims 9-15, 20 have been considered but are moot in view of the new ground(s) of rejection.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN  
November 27, 2002



EDDIE LEE  
SUSAN L. NGUYEN, EXAMINER  
TECHNOLOGY CENTER 2800